User Manual

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<<Preliminary Document>>

QB-V850E2-SP

Trace memory extension for IECUBE2

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General Precautions in the Handling of MPU/MCU Products

The following usage notes are applicable to all MPU/MCU products from Renesas. For detailed usage notes on the products covered by this manual, refer to the relevant sections of the manual. If the descriptions under General Precautions in the Handling of MPU/MCU Products and in the body of the manual differ from each other, the description in the body of the manual takes precedence.

1. Handling of Unused Pins
   Handle unused pins in accord with the directions given under Handling of Unused Pins in the manual.

   The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible. Unused pins should be handled as described under Handling of Unused Pins in the manual.
2. Processing at Power-on
   The state of the product is undefined at the moment when power is supplied.

   The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the moment when power is supplied.
   In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the moment when power is supplied until the reset process is completed.
   In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the moment when power is supplied until the power reaches the level at which resetting has been specified.

3. Prohibition of Access to Reserved Addresses
   Access to reserved addresses is prohibited.

   The reserved addresses are provided for the possible future expansion of functions. Do not access these addresses; the correct operation of LSI is not guaranteed if they are accessed.

4. Clock Signals
   After applying a reset, only release the reset line after the operating clock signal has become stable. When switching the clock signal during program execution, wait until the target clock signal has stabilized.

   When the clock signal is generated with an external resonator (or from an external oscillator) during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Moreover, when switching to a clock signal produced with an external resonator (or by an external oscillator) while program execution is in progress, wait until the target clock signal is stable.

5. Differences between Products
   Before changing from one product to another, i.e. to one with a different part number, confirm that the change will not lead to problems.

   The characteristics of MPU/MCU in the same group but having different part numbers may differ because of the differences in internal memory capacity and layout pattern. When changing to products of different part numbers, implement a system-evaluation test for each of the products.

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Chapter 1 General

Tool description

The QB-V850E2-SP is a trace memory extension for the in-circuit emulator IECUBE2 (QB-V850E2).

Software requirements

To use this tool please make sure that Green Hills MULTI© version 5.1.6C with PATCH03 or later is installed. The latest patch can be downloaded from this website:

www.renesas.eu/update?id=26

Purpose of this document

This manual describes the basic setup procedure for this tool.

Figure 1-1

Picture of QB-V850E2-SP

Chapter 2 Setup Procedure

General This chapter describes how to connect the QB-V850ES-SP to the IECUBE2 main module.

First step Remove the cover from the connector on the top side of the QB-V850ES-SP module. It might be necessary to loose the screw a little bit.

Second step Make sure that the IECUBE2 is switched off and the USB cable and power supply adapter is not connected to the IECUBE2 main module. Then Remove the cover on the bottom side of the IECUBE2 main module.

Third step Mount the IECUBE2 main module on the QB-V850ES-SP as shown in the picture. Now connect the USB cable and power supply adapter to the IECUBE2 and turn the IECUBE2 on.

Note When the IECUBE2 main module is connected to the QB-V850ES-SP, the Green Hills MULTI© Debugger will detect the trace memory extension automatically.

Chapter 3 Cautions

Caution 1 It may happen that the QB-V850E2-SP fails to connect with IECUBE2 main, because of a calibration problem. In this case, you can get following error message:

"Target: Trace raw info read error 0xc78: device depend err (trace memory read error)"

When you get this message, please do the following steps:

1. Disconnect the debugger
2. Power off the IECUBE2 main module
3. Power on the IECUBE2 main module again
4. Connect to the debugger again

Revision History

Chapter	Page	Description

QB-V850E2-SP

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